

Isolation and Characterization of Candida Species from Dental Caries in Deciduous Teeth

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Abstract

The present study showed the presence of *Candida tropicalis* as a mayor fungus isolated of dental caries in deciduous teeth.

Keywords: Dental Caries, C Tropicalis

Introduction

Candida species is the most frequent fungus found in the oral cavity [1]. This microorganism provokes a pathology known as candidiasis in many forms [2], however, this yeast can be found in dental decay lesions, gingival and periodontal disease [3]. *Candida albicans* is the most frequent species of microorganism in all these lesions [4], however, other *Candida* species as *Candida tropicalis*, *C. glabrata*, *C. Krusei*, *C. guilliermondii* are less present in oral cavity [5]. Dental caries, is the most frequent lesions over world and its etiology is eminently microbial, being the *Streptococcus mutans* who produce the teeth demineralization and destruction [6]. The main of this study is to isolate and characterize the *Candida* species from dental caries in deciduous teeth.

Materials and Methods

Fifty children, female and male, from pediatric dentistry of Universidad Andina del Cusco, between 4 and 6 years old with dental caries are selected. Before remove and rehabilitate the dental caries, with a dental spoon excavator it was collected a caries sample and stored in 0.9% NaCl [7]. After that, the samples were sonicated and 100 ul aliquot was placed in CHROM Agar *Candida* medium (CHRO Magar, Paris, France) and were incubated for 48 hours at 37°C [7]. It followed the CHRO Magar *Candida* manual instructions to determine the presence of *Candida* species.

Results

The *Candida* species most present in the dental caries in deciduous teeth were the *C. tropicalis*. Other species of *Candida* are found in less percentages (Table 1).

Table 1.

Candida Species	Percentage %
C. Tropicalis	95
C. Albicans	3
C. Glabrata	1
Other Candida species	1

Discussion

Candida species is the most fungus found in oral cavity being the *C. Albicans* the most pathological yeast of the *Candida* species [4]. This microorganism was found in many oral lesions as candidiasis, dental caries, gingival and periodontal disease [2,3]. Other *Candida* non albicans are founded in less frequency. However, *C. tropicalis* and *C. glabrata* has been described as emerging pathogens in recent years [8]. In the present study, *C. tropicalis* was presented in the most cases of dental caries in deciduous teeth, being this data corroborated with other studies who the main pathogen is the *C. tropicalis*. Most studies, in fact, found that the *C. albicans* as the

mayor pathogen isolated from dental caries [6,9,10]. This difference of data can be explained by the geographical location of patients where *Candida* species can be found in amounts depending on the geographical area. In this study, other *Candida* species, can be found in less amounts. Despite limitations, the data obtained in the present study demonstrated the high rate of *C. Tropicalis* in dental caries in deciduous teeth, however, has not been determined which factor is involved in the pathogenesis of dental caries produced

by *C. tropicalis*. It is also important study the oral microbiome in dental caries to dilucidated the role of *Candida* species, mainly *C. tropicalis*, in the development of dental caries in deciduous teeth.

Conclusion

Candida tropicalis is the most fungi founded in dental caries lesion in deciduous teeth in child between 4 and 6 years old.

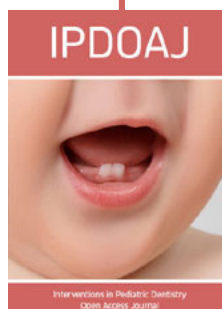


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